

## SEQUENCE LISTING

MAY 18 2000  
TECH CENTER 1600/2900

## (1) GENERAL INFORMATION:

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(ii) TITLE OF INVENTION: METHODS FOR REGULATING  
GASTROINTESTINAL MOTIITY

(iii) NUMBER OF SEQUENCES: 39

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## (v) COMPUTER READABLE FORM:

C1  
(A) MEDIUM TYPE: Floppy disk  
(B) COMPUTER: IBM PC compatible  
(C) OPERATING SYSTEM: PC-DOS/MS-DOS  
(D) SOFTWARE: PatentIn Release #1.0, Version #1.25

## (vi) CURRENT APPLICATION DATA:

(A) APPLICATION NUMBER: 08/908,867  
(B) FILING DATE: 08-AUGUST-1997  
(C) CLASSIFICATION: Pending

## (vii) PRIOR APPLICATION DATA:

(A) APPLICATION NUMBER: 08/694,954  
(B) FILING DATE: 08-AUGUST-1996  
(C) CLASSIFICATION: Pending

## (viii) ATTORNEY/AGENT INFORMATION:

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(C) REFERENCE/DOCKET NUMBER: 227/166

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(2) INFORMATION FOR SEQ ID NO: 1:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 39 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (B) LOCATION: 39
- (D) OTHER INFORMATION: amidated Ser (Serineamide)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

His Ser Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu  
1                      5                      10                      15  
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser  
                    20                      25                      30  
Ser Gly Ala Pro Pro Pro Ser  
                    35

(2) INFORMATION FOR SEQ ID NO: 2:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 39 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (B) LOCATION: 39
- (D) OTHER INFORMATION: amidated Ser (Serineamide)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu  
1                      5                      10                      15  
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser  
                    20                      25                      30

Ser Gly Ala Pro Pro Pro Ser  
35

(2) INFORMATION FOR SEQ ID NO: 3:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (B) LOCATION: 30
- (D) OTHER INFORMATION: amidated Arg (Arginineamide)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:

His Ala Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Gly  
1 5 10 15  
Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Val Lys Gly Arg  
20 25 30

(2) INFORMATION FOR SEQ ID NO: 4:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (B) LOCATION: 31
- (D) OTHER INFORMATION: amidated Ser (Serineamide)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:

Asp Leu Ser Lys Gly Met Glu Glu Glu Ala Val Arg Leu Phe Ile Glu  
1 5 10 15  
Trp Leu Lys Asn Gly Gly Pro Ser Ser Gly Ala Pro Pro Pro Ser  
20 25 30

(2) INFORMATION FOR SEQ ID NO: 5:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 39 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(B) LOCATION: 39  
 (D) OTHER INFORMATION: amidated Ser (Serineamide)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu  
 1 5 10 15  
 Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser  
 20 25 30  
 Ser Gly Ala Pro Pro Pro Ser  
 35

(2) INFORMATION FOR SEQ ID NO: 6:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 39 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(B) LOCATION: 39  
 (D) OTHER INFORMATION: amidated Ser (Serineamide)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu  
 1 5 10 15  
 Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser  
 20 25 30  
 Ser Gly Ala Pro Pro Pro Ser  
 35

(2) INFORMATION FOR SEQ ID NO: 7:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 39 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (ix) FEATURE:

- (B) LOCATION: 39
- (D) OTHER INFORMATION: amidated Ser (Serineamide)

## (ii) MOLECULE TYPE: peptide

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu  
 1 5 10 15  
 Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser  
 20 25 30  
 Ser Gly Ala Pro Pro Pro Ser  
 35

## (2) INFORMATION FOR SEQ ID NO: 8:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 39 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: peptide

## (ix) FEATURE:

- (B) LOCATION: 39
- (D) OTHER INFORMATION: amidated Ser (Serineamide)

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:

Tyr Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu  
 1 5 10 15  
 Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser  
 20 25 30  
 Ser Gly Ala Pro Pro Pro Ser  
 35

## (2) INFORMATION FOR SEQ ID NO: 9:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 39 amino acids

SD-149907.1

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(B) LOCATION: 6

(D) OTHER INFORMATION: naphthylalanine

(B) LOCATION: 39

(D) OTHER INFORMATION: amidated Ser (Serineamide)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11:

His Gly Glu Gly Thr Ala Thr Ser Asp Leu Ser Lys Gln Met Glu Glu  
 1 5 10 15  
 Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser  
 20 25 30  
 Ser Gly Ala Pro Pro Pro Ser  
 35

(2) INFORMATION FOR SEQ ID NO: 12:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 39 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(B) LOCATION: 39

(D) OTHER INFORMATION: amidated Ser (Serineamide)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 12:

His Gly Glu Gly Thr Phe Ser Ser Asp Leu Ser Lys Gln Met Glu Glu  
 1 5 10 15  
 Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser  
 20 25 30  
 Ser Gly Ala Pro Pro Pro Ser  
 35

(2) INFORMATION FOR SEQ ID NO: 13:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 39 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(B) LOCATION: 39  
(D) OTHER INFORMATION: amidated Ser (Serineamide)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 13:

His Gly Glu Gly Thr Phe Ser Thr Asp Leu Ser Lys Gln Met Glu Glu  
1 5 10 15  
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser  
20 25 30  
Ser Gly Ala Pro Pro Pro Ser  
35

(2) INFORMATION FOR SEQ ID NO: 14:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 39 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(B) LOCATION: 39  
(D) OTHER INFORMATION: amidated Ser (Serineamide)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 14:

His Gly Glu Gly Thr Phe Thr Thr Asp Leu Ser Lys Gln Met Glu Glu  
1 5 10 15  
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser  
20 25 30  
Ser Gly Ala Pro Pro Pro Ser  
35

(2) INFORMATION FOR SEQ ID NO: 15:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 39 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single



(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(B) LOCATION: 39

(D) OTHER INFORMATION: amidated Ser (Serineamide)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 15:

His Gly Glu Gly Thr Phe Thr Ser Glu Leu Ser Lys Gln Met Glu Glu  
1 5 10 15  
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser  
20 25 30  
Ser Gly Ala Pro Pro Pro Ser  
35

(2) INFORMATION FOR SEQ ID NO: 16:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 39 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(B) LOCATION: 10

(D) OTHER INFORMATION: pentylglycine

(B) LOCATION: 39

(D) OTHER INFORMATION: amidated Ser (Serineamide)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 16:

His Gly Glu Gly Thr Phe Thr Ser Asp Gly Ser Lys Gln Met Glu Glu  
1 5 10 15  
Glu Ala Val Arg Leu Met Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser  
20 25 30  
Ser Gly Ala Pro Pro Pro Ser  
35

(2) INFORMATION FOR SEQ ID NO: 17:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 39 amino acids

(B) TYPE: amino acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(B) LOCATION: 10  
 (D) OTHER INFORMATION: pentylglycine  
 (B) LOCATION: 39  
 (D) OTHER INFORMATION: amidated Ser (Serineamide)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 17:

His Gly Glu Gly Thr Phe Thr Ser Asp Gly Ser Lys Gln Leu Glu Glu  
 1 5 10 15  
 Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser  
 20 25 30  
 Ser Gly Ala Pro Pro Pro Ser  
 35

(2) INFORMATION FOR SEQ ID NO: 18:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 39 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(B) LOCATION: 14  
 (D) OTHER INFORMATION: pentylglycine  
 (B) LOCATION: 39  
 (D) OTHER INFORMATION: amidated Ser (Serineamide)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 18:

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Gly Glu Glu  
 1 5 10 15  
 Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser  
 20 25 30  
 Ser Gly Ala Pro Pro Pro Ser  
 35

(2) INFORMATION FOR SEQ ID NO: 19:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 39 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: peptide

## (ix) FEATURE:

- (B) LOCATION: 14
- (D) OTHER INFORMATION: pentylglycine
- (B) LOCATION: 39
- (D) OTHER INFORMATION: amidated Ser (Serineamide)

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 19:

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Gly Glu Glu  
 1 5 10 15  
 Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser  
 20 25 30  
 Ser Gly Ala Pro Pro Pro Ser  
 35

## (2) INFORMATION FOR SEQ ID NO: 20:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 39 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: peptide

## (ix) FEATURE:

- (B) LOCATION: 22
- (D) OTHER INFORMATION: naphthylalanine
- (B) LOCATION: 39
- (D) OTHER INFORMATION: amidated Ser (Serineamide)

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 20:

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu  
 1 5 10 15  
 Glu Ala Val Arg Leu Ala Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser  
 20 25 30  
 Ser Gly Ala Pro Pro Pro Ser

(i) SEQUENCE CHARACTERISTICS:

- (ii) MOLECULE TYPE: peptide

(B) LOCATION: 39

(D) OTHER INFORMATION: amidated Ser (Serineamide)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 21:

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu  
1 5 10 15

Glu Ala Val Arg Leu Phe Val Glu Trp Leu Lys Asn Gly Gly Pro Ser  
20 25 30

Ser Gly Ala Pro Pro Pro Ser  
35

(i) SEQUENCE CHARACTERISTICS:

- (ii) MOLECULE TYPE: peptide

(B) LOCATION: 39

(D) OTHER INFORMATION: amidated Ser (Serineamide)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 22:

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu  
1 5 10 15

Glu Ala Val Arg Leu Phe Val Glu Phe Leu Lys Asn Gly Gly Pro Ser  
20 25 30

Ser Gly Ala Pro Pro Pro Ser  
35

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 39 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ix) FEATURE:

- (B) LOCATION: 23  
(D) OTHER INFORMATION: tertiary-butylglycine
- (B) LOCATION: 39  
(D) OTHER INFORMATION: amidated Ser (Serineamide)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 23:

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu  
1 5 10 15  
Glu Ala Val Arg Leu Phe Gly Glu Trp Leu Lys Asn Gly Gly Pro Ser  
20 25 30  
Ser Gly Ala Pro Pro Pro Ser  
35

(2) INFORMATION FOR SEQ ID NO: 24:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 39 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ix) FEATURE:

- (B) LOCATION: 23  
(D) OTHER INFORMATION: tertiary-butylglycine
- (B) LOCATION: 39  
(D) OTHER INFORMATION: amidated Ser (Serineamide)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 24:

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu  
1 5 10 15  
Glu Ala Val Arg Leu Phe Gly Glu Phe Leu Lys Asn Gly Gly Pro Ser

20

25

30

Ser Gly Ala Pro Pro Pro Ser  
35

## (2) INFORMATION FOR SEQ ID NO: 25:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 39 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: peptide

## (ix) FEATURE:

- (B) LOCATION: 39
- (D) OTHER INFORMATION: amidated Ser (Serineamide)

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 25:

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu  
1 5 10 15  
Glu Ala Val Arg Leu Phe Ile Asp Trp Leu Lys Asn Gly Gly Pro Ser  
20 25 30  
Ser Gly Ala Pro Pro Pro Ser  
35

## (2) INFORMATION FOR SEQ ID NO: 26:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 39 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: peptide

## (ix) FEATURE:

- (B) LOCATION: 39
- (D) OTHER INFORMATION: amidated Ser (Serineamide)

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 26:

His Ala Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu  
1 5 10 15  
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser  
20 25 30

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 39 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (B) LOCATION: 31, 36, 37, 38  
(D) OTHER INFORMATION: thioproline
- (B) LOCATION: 39  
(D) OTHER INFORMATION: amidated Ser (Serineamide)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 27:

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu  
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser  
20 25 30

Ser Gly Ala Pro Pro Pro Ser  
35

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 39 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (B) LOCATION: 36, 37, 38  
(D) OTHER INFORMATION: thioproline
- (B) LOCATION: 39  
(D) OTHER INFORMATION: amidated Ser (Serineamide)

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 28:

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu  
 1                      5                      10                      15  
 Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser  
                     20                      25                      30  
 Ser Gly Ala Pro Pro Pro Ser  
                     35

## (2) INFORMATION FOR SEQ ID NO: 29

## (i) SEQUENCE CHARACTERISTICS:

- Ch*  
*uf*
- (A) LENGTH: 39 amino acids
  - (B) TYPE: amino acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: peptide

## (ix) FEATURE:

- (B) LOCATION: 31, 36, 37, 38
- (D) OTHER INFORMATION: homoproline
- (B) LOCATION: 39
- (D) OTHER INFORMATION: amidated Ser (Serineamide)

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 29:

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu  
 1                      5                      10                      15  
 Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser  
                     20                      25                      30  
 Ser Gly Ala Pro Pro Pro Ser  
                     35

## (2) INFORMATION FOR SEQ ID NO: 30

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 39 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: peptide

## (ix) FEATURE:

- (B) LOCATION: 36, 37, 38
- (D) OTHER INFORMATION: homoproline



(B) LOCATION: 39

(D) OTHER INFORMATION: amidated Ser (Serineamide)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 30:

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu  
 1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser  
 20 25 30

Ser Gly Ala Pro Pro Pro Ser  
 35

(2) INFORMATION FOR SEQ ID NO: 31

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 39 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(B) LOCATION: 31, 36, 37, 38

(D) OTHER INFORMATION: thioproline

(B) LOCATION: 39

(D) OTHER INFORMATION: amidated Ser (Serineamide)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 31:

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu  
 1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser  
 20 25 30

Ser Gly Ala Pro Pro Pro Ser  
 35

(2) INFORMATION FOR SEQ ID NO: 32

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 39 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

## (ix) FEATURE:

- (B) LOCATION: 31, 36, 37, 38
- (D) OTHER INFORMATION: homoproline
- (B) LOCATION: 39
- (D) OTHER INFORMATION: amidated Ser (Serineamide)

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 32:

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu  
 1                      5                      10                      15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser  
                     20                      25                      30

Ser Gly Ala Pro Pro Pro Ser  
                     35

## (2) INFORMATION FOR SEQ ID NO: 33

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 39 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: peptide

## (ix) FEATURE:

- (B) LOCATION: 31, 36, 37, 38
- (D) OTHER INFORMATION: N-methylalanine
- (B) LOCATION: 39
- (D) OTHER INFORMATION: amidated Ser (Serineamide)

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 33:

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu  
 1                      5                      10                      15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Ala Ser  
                     20                      25                      30

Ser Gly Ala Ala Ala Ala Ser  
                     35

## (2) INFORMATION FOR SEQ ID NO: 34

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 39 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(B) LOCATION: 36, 37, 38

(D) OTHER INFORMATION: N-methylalanine

(B) LOCATION: 39

(D) OTHER INFORMATION: amidated Ser (Serineamide)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 34:

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu  
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser  
20 25 30

Ser Gly Ala Ala Ala Ala Ser  
35

(2) INFORMATION FOR SEQ ID NO: 35

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 39 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(B) LOCATION: 31, 36, 37, 38

(D) OTHER INFORMATION: N-methylalanine

(B) LOCATION: 39

(D) OTHER INFORMATION: amidated Ser (Serineamide)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 35:

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu  
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Ala Ser  
20 25 30

Ser Gly Ala Ala Ala Ala Ser  
35

(2) INFORMATION FOR SEQ ID NO: 36

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 39 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 36:


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His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1          5          10          15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
          20          25          30
Ser Gly Ala Pro Pro Pro Ser
          35

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(2) INFORMATION FOR SEQ ID NO: 37

(i) SEQUENCE CHARACTERISTICS:

- 
- (A) LENGTH: 31 amino acids
  - (B) TYPE: amino acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 37:

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His Ala Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Gly
1          5          10          15
Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Val Lys Gly Arg Gly
          20          25          30

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(2) INFORMATION FOR SEQ ID NO: 38:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 40 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide


(ix) FEATURE:

- (B) LOCATION: 1, 3, 6 AND 7
- (D) OTHER INFORMATION: Xaa in position 1 is His, Arg or Tyr;  
Xaa in position 2 is Ser, Gly, Ala or Thr; Xaa in position 3  
is Asp or Glu; Xaa in position 6 is Phe, Tyr or naphthylalanine;

Xaa in position 7 is Thr or Ser;

- (B) LOCATION: 8, 9, 10 AND 14
- (D) OTHER INFORMATION: Xaa in position 8 is Ser or Thr; Xaa in position 9 is Asp or Glu; Xaa in position 10 is Leu, Ile, Val, pentylglycine or Met; Xaa in position 14 is Leu, Ile, pentylglycine, Val or Met;
- (B) LOCATION: 22, 23, 24 AND 25
- (D) OTHER INFORMATION: Xaa in position 22 is Phe, Tyr or naphthylalanine; Xaa in position 23 is Ile, Val, Leu, pentylglycine, tert-butylglycine or Met; Xaa in position 24 is Glu or Asp; Xaa in position 25 is Trp, Phe, Tyr or naphthylalanine;
- (B) LOCATION: 31, 36, 37 AND 38
- (D) OTHER INFORMATION: Xaa in positions 31, 36, 37 and 38 are independently Pro, homoproline, 3-hydroxyproline, 4-hydroxyproline, thioproline, N-alkylglycine, N-alkylpentylglycine or N-alkylalanine;
- (B) LOCATION: 39 AND 40
- (D) OTHER INFORMATION: Xaa in position 39 is Ser, Thr or Tyr; Xaa in position 40 is -OH or -NH<sub>2</sub>; with the proviso that the compound is not exendin-3 or exendin-4 and pharmaceutically acceptable salts thereof.

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 38:


 Xaa Xaa Xaa Gly Thr Xaa Xaa Xaa Xaa Xaa Ser Lys Gln Xaa Glu Glu  
 1 5 10 15  
 Glu Ala Val Arg Leu Xaa Xaa Xaa Xaa Leu Lys Asn Gly Gly Xaa Ser  
 20 25 30  
 Ser Gly Ala Xaa Xaa Xaa Xaa Xaa  
 35 40

(2) INFORMATION FOR SEQ ID NO: 39:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 40 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (B) LOCATION: 1, 3, 6 AND 7
- (D) OTHER INFORMATION: Xaa in position 1 is His or Arg; Xaa in position 2 is Ser or Gly; Xaa in position 3 is Asp or Glu; Xaa in position 6 is Phe or naphthylalanine; Xaa in position 7 is Thr or Ser;
- (B) LOCATION: 8, 9, 10, 14 AND 22
- (D) OTHER INFORMATION: Xaa in position 8 is Ser or Thr; Xaa in

position 9 is Asp or Glu; Xaa in position 10 is Leu or pentylglycine; Xaa in position 14 is Leu or pentylglycine; Xaa in position 22 is Phe or naphthylalanine;

(B) LOCATION: 23, 24, AND 25

(D) OTHER INFORMATION: Xaa in position 23 is Ile, Val or tert-butylglycine; Xaa in position 24 is Glu or Asp; Xaa in position 25 is Trp or Phe;

(B) LOCATION: 31, 36, 37 AND 38

(D) OTHER INFORMATION: Xaa in positions 31, 36, 37 and 38 are independently Pro, homoproline, thioproline or N-methylalanine;

(B) LOCATION: 39 AND 40

(D) OTHER INFORMATION: Xaa in position 39 is Ser or Tyr; Xaa in position 40 is -OH or -NH<sub>2</sub>; with the proviso that the compound is not exendin-3 or exindin-4 and pharmaceutically acceptable salts thereof.

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 39:

Xaa Xaa Xaa Gly Thr Xaa Xaa Xaa Xaa Xaa Ser Lys Gln Xaa Glu Glu  
1 5 10 15

Glu Ala Val Arg Leu Xaa Xaa Xaa Xaa Leu Lys Asn Gly Gly Xaa Ser  
20 25 30

Ser Gly Ala Xaa Xaa Xaa Xaa Xaa  
35 40